OIB - P-3 Orion 03/09/17 Science Report

Aircraft:
P-3 Orion (See full schedule)
Date:
Thursday, March 9, 2017
Mission:
OIB
Mission Location:
Greenland
Mission Summary:

IceBridge successfully completed the high priority North Pole Transect mission. This mission is a near-repeat of an OIB flight flown every year since 2013. The intention is to sample ice in the vicinity of the Pole and also the gradient of that ice between the Pole and Ellesmere Island. This area had been undersampled by OIB prior to 2012. In addition to Level-1 Requirements SI1 and SI2, this mission addresses sea ice level 1 requirement SIP2a by extending sea ice baseline observations to the North Pole region, and sea ice level 1 baseline requirement SI4 by conducting a sampling mission that is time-coincident with a CryoSat-2 track. CryoSat-2 passed overhead at 17:48:49Z while we were a little past halfway way through the eastern return leg of the flight path.

Weather for the mission was forecast to be cloudy in the northern and western portions of the flight line, though we expected data losses from clouds to be low enough to launch the mission. On the flight line, clouds were thicker in the area just east of the North Pole contrary to what our forecast models had predicted, but ATM was able to range to the surface throughout most of the cloudy portions of the flight with only a small loss of data overall. Some high altitude data was also collected on the return to Thule. Due to the early time of year for the campaign the sun angle was up to ~6 degrees below the horizon in the northwestern portion of the flight line. DMS was able to get images showing discernible lead and other surface features through most of the flight, though features were largely unrecognizable through the heaviest of the cloud cover under low light conditions.

Data volumes
ATM: T5: 24 Gb T6: 132 Gb
FLIR: 73 Gb
Cambot: 17 Gb
KT19: 9 Mb
DMS: 82.8 Gb
Snow/Ku radar: 1.1 Tb
MCoRDS: 83 Gb
Accumulation radar: Did not run

Submitted by:
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